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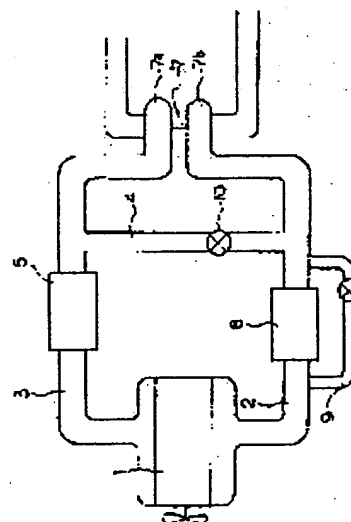
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(54) DIESEL ENGINE WITH SUPERCHARGER

(57)Abstract:

PURPOSE: To reduce NOX to a great extent and avoid deteriorating output pressure and particulates as well as to enhance combustion stability at the time of exhaust air circulation by providing an engine with an exhaust air circulating passage where exhaust air extracted from the downstream of a trap filter is led to the upstream of an intake air cooler.

CONSTITUTION: When the control valve 10 of an exhaust air circulating passage 4 is opened, since an exhaust air passage at the upstream of a turbine 7a is higher in pressure than an intake air passage at the downstream of a compressor 7b, the difference in pressure between these two causes pure exhaust air containing no particulate to be sucked in intake air from the downstream of a trap filter 5. Circulating exhaust air high in temperature is cooled by an inter cooler 8 together with supercharged air, so that intake air is thereby lowered in temperature as a whole. The same thing can be said to recycling the trap filter 5, that is, when exhaust air raised in temperature due to recycling is circulated, exhaust air is sufficiently lowered in temperature by the inter cooler 8. By this constitution, no intake air charging



efficiency is lowered even at the time of exhaust air circulation, NOX is thereby effectively reduced with no deterioration of particulates and output performance because sufficient quantity of oxygen is in existence.

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